



# Learning Outcomes for N020 Tiltrotator System

| Learning Outcome   | Instructor Notes  |
|--|---|
| <b>Have a basic understanding of the industry, the dangers of working in the industry and their responsibilities as a plant operator</b> | Explain the structure of the course and the need to comply with your instructions at all times • explain that the industry is very dangerous and that only safe working practices will be adopted throughout the course • personal and others safety is not just the absence of physical injury, can be affected by noise, vibration, dust and can lead to serious illness, death, lost time, lost income, expense for the employer etc • explain Health & Safety at Work Act 1974, PUWER Regulations, LOLER Regulations, construction (Design and Management) Regulations, Management of Health and Safety at Work Regulations, risk assessments, method statements, and other relevant legislation • discuss relating publications from CPA, HSE, OPERC, BS-EN 474-1 etc. Remind learners that operators have moral obligations, legal obligations and environmental obligations • explain reporting structures, the importance of good communication on site (colleagues, management, and other workers on site) |
| <b>Have a working knowledge of the manufacturer's handbook for the tiltrotator</b>   | Explain the importance of the manufacturer's handbook and that it will be used throughout the course. Stress that it has to be used in alliance with all relevant legislation   |
| <b>Be able to locate and identify the major components of the tiltrotator and explain their functions</b>                                | Explain the different types of components • explain the function of the components and how they all contribute to the safety and operational integrity of the tiltrotator • explain hydraulic systems, grease points, safety security indicators, ram, retaining latch mechanism, sprung latch mechanism, jaw, front pivot pin, rear pivot pin, hydraulic hoses, warning alarms, securing switches / devices / alarms etc   |
| <b>Identify and maintain PPE appropriate for tiltrotator use</b>   | Explain that PPE should include the following: Suitable safety boots, ear defenders, face / eye protection, dust mask if appropriate, suitable gloves, overalls, hard hat etc   |
| <b>Be able to explain the different types of tiltrotator</b>   | Explain the different types of tiltrotator devices: Explain in detail the various different versions on the market. Explain the tiltrotator, its suitability and different characteristics. Explain that familiarisation training and the manufacturer's instructions are essential if using a new type of tiltrotator  |



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| <b>Conduct all pre-operational checks in accordance with manufacturer's and legislative requirements</b> | Explain and demonstrate the importance of pre-operational checks and legal implications of using a tiltrotator without having checked it. Go through the sequence of checking, use manufacturer's handbook, check sheet, defect reporting procedure etc   |
| <b>Conduct all necessary safety checks at the designated change over exclusion zone</b>                  | Explain the importance of a segregated exclusion zone when changing attachments using the tiltrotator: Explain the dangers involved including other workers • pedestrians • vehicles • overhead obstructions • buried services etc  |
| <b>Fit and remove attachments safely and efficiently</b>   | Explain procedures to be adopted including:<br>machine and attachment compatibility • different bucket types • manufacturer's recommendations • other types of attachments • manual handling issues • LOLER Regulations • codes of practice and industry best practice • security of attachment – checks to be made • placement of removed attachments • importance of ground conditions etc • access etc   |
| <b>Demonstrate and explain checks for attachment security</b>  | Explain that the operator should take full responsibility of the attachment security and not to rely on others. Demonstrate how to fully test the security of the attachment by exercising all movements vigorously and exerting pressure on the ground to ensure the attachment is fully secure. Explain that a physical and visual check of the attachment should also be completed. Explain how fitting an attachment on to a tiltrotator alters the working radius and the SWL of the machine and the possible dangers involved |
| <b>Environmental considerations</b>  | Explain and demonstrate procedures to be adopted including:<br>Clear visibility • communication system – signals etc • noise • dust • vibration • debris • fuel / oil spills • ground contamination / damage  |
| <b>Carry out all end of shift and shut down procedures</b>   | Explain and demonstrate procedures to be adopted including:<br>Safe parking, positioning • shut down procedures and machine and attachment security   |

***The learning outcomes listed should not be considered in isolation and may be added to in order to accurately reflect the learner's duties and working environment***